

## 1-wire BAE0910 tinyboard user manual

### Description

This very tiny board integrates the BAE0910 multifunction 1-wire chip with all related features from this chip in a useful form factor.

- 13x36mm size, with two 3mm fixation holes
- the five functions pins of the chip are directly available on the 0.1" spaced 5 x 3 pin header.
- the pin header also provide GND and +5V signals in an arrangement compatible with R/C servo's.
- Led indication for power and for OUT<sup>1</sup> state
- Connection to 1wire bus via a 0.15" spaced 3 screw terminal bloc GND, +5Vdc and DQ.
- 470  $\Omega$  resistors have been added in serie to allow direct use of the output to drive small loads as leds, buzzers, small dii relays, etc...
- sensitive pins are protected by a schottky diode. (DQ and COUNTER)
- Zener 5.1v diode protect the chip again spikes.

### Standard BAE0910 features:

#### Five I/O pins allows various functions:

- One to four 16 bit PWM: two hardware (PWM1 & 2) + two software(PWM3 & 4)
- One 8 bit ADC input 0 to 5V
- One 32 bit counter
- One strong digital output (sink up to 20mA)
- One PIO, software selectable as INPUT or OUTPUT (20ma)

#### Compatibility with 1-wire protocol:

- Standard speed operation: protocol implemented with low latency interrupts in background.
- Support every standard ROM comkQgCgLOLRC7QLR'QlgQ7Q'CR(7OC75hG'QCUghORUQ(QUgCgh5gGh/'Cg

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- Unique serial number

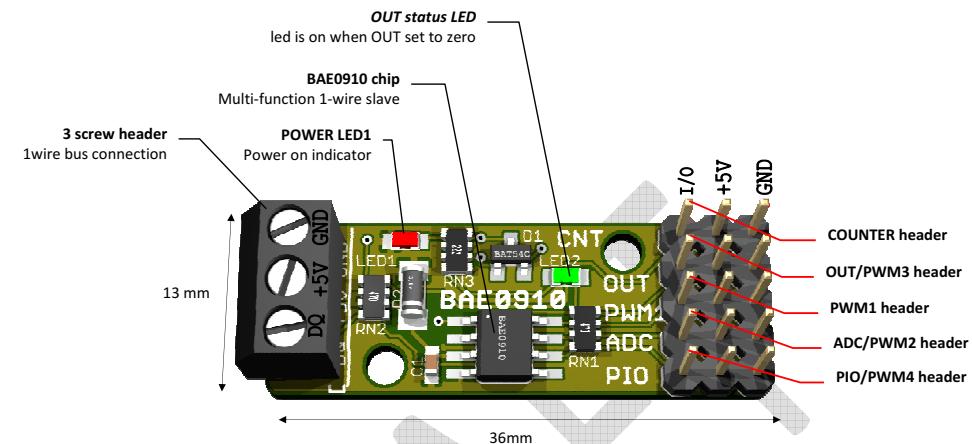
### Physical characteristics:

- Single chip microcontroller based solution in an 8-pin SOIC.
- 5.0V supply voltage, 8mA typical consumption
- powerful 32MHz operation
- Fully functional without additional external components

### Additional features

- **Firmware upgradable via 1-wire bus.**  
The chip firmware is contained in FLASH and can be upgraded directly from 1-wire bus.
- **Automation Engine: embed your programs in the device.**  
This new feature allows to define powerful autonomous behavior of the chip
- 32 bit RTC clock incrementing each second.
- PIO has configurable internal pull-up / pull-down resistor
- Counter is configurable on rising/falling edge
- 1KB (2x512bytes) of EEPROM storage
- 32 bytes user RAM

## General presentation.



### Connector's pinouts:

#### 1-wire interface: 3 screw connector

This board require 5Vdc stabilized power. Chip require only 8mA, however, connected devices may require more power.

#### ADC/PWM2

1	ADC / PWM2 (20mA max)
2	5V
3	GND

#### PIO/sPWM4

1	IN/OUT / PWM4 (20mA max)
2	5V
3	GND

#### COUNTER

1	COUNTER input (6.8k pull up)
2	5V
3	GND

#### PWM1

1	PWM1 (20mA max)
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#### OUT/sPWM3

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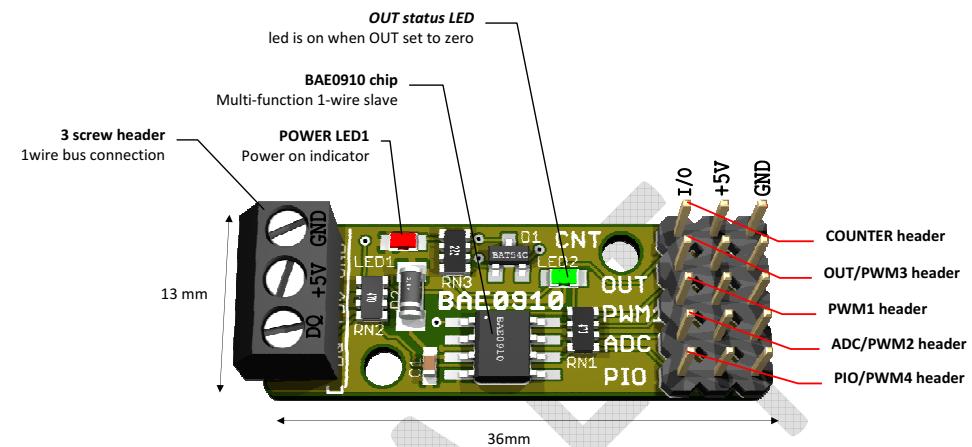
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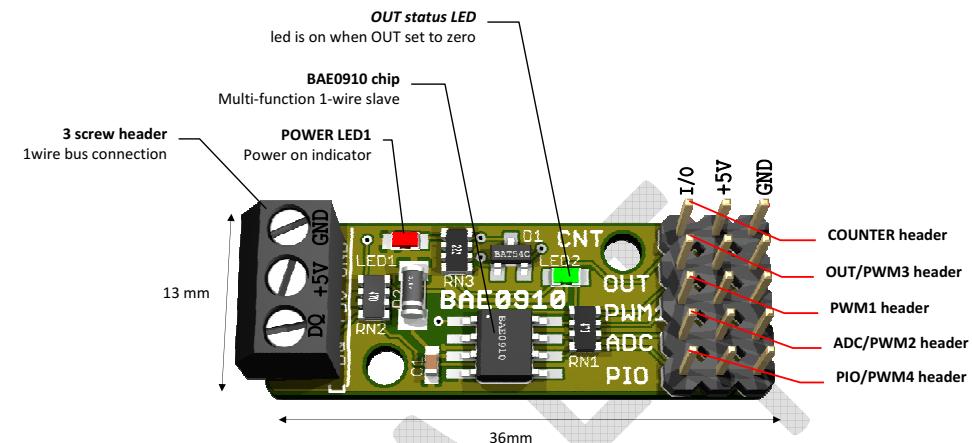
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